Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

16. (Currently Amended) A system design method comprising:

receiving a system design including components connected via component ports from a system designer;

for each of the component ports, identifying a set of alternative bus/communication protocols supported by the component port;

comparing the sets of alternative bus/communication protocols of the component ports to identify a subset of the sets of alternative bus/communication protocols supported by all of the component ports; and

selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports.

17. (Previously Presented) The system design method of claim 16, wherein comparing the sets of alternative bus/communication protocols comprises:

comparing a parameter value of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding parameter values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible parameter values.

18. (Previously Presented) The system design method of claim 16, wherein comparing the sets of alternative bus/communication protocols comprises:

comparing a operation of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding operations of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible operations.

19. (Previously Presented) The system design method of claim 18, wherein the subset of the bus/communication protocols having compatible operations includes a first operation associated with a first one of the component ports and a complementary operation associated with at least one of the other component ports.

20. (Previously Presented) The system design method of claim 16, wherein comparing the sets of alternative bus/communication protocols comprises:

comparing a connection value of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding connection values of each of the sets of alternative bus/communication protocols supported by the other component ports to identify the subset of the bus/communication protocols having compatible connection values.

21. (Previously Presented) The system design method of claim 18, wherein the subset of the bus/communication protocols having compatible connection values includes an input for a first operation associated with a first one of the component ports and an output for the first operation associated with at least one of the other component ports.

22. (Previously Presented) The system design method of claim 16, wherein comparing the sets of alternative bus/communication protocols comprises:

comparing a role value of a first one of the set of alternative bus/communication protocols supported by a first one of the component ports with corresponding role values of each of the sets of alternative bus/communication protocols supported by the other component ports to

identify the subset of the bus/communication protocols having compatible role values, wherein each role value is associated with at least one connection value, wherein each connection value is associated with at least one operation, wherein each operation is associated with at least one parameter value.

23. (Currently Amended) The system design method of claim 16, wherein selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports comprises:

determining the number of bus/communication protocols included in the subset;

in response to the number of bus/communication protocols included in the subset being one, ~~subset having a single bus/communication protocol,~~ selecting the single bus/communication protocol; and

in response to the subset being an empty set, notifying the system designer that the connections between the components via the component ports cannot be made.

24. (Currently Amended) The system design method of claim 23, further comprising:

in response to the number of bus/communication protocols included in the subset ~~subset including~~ being at least two ~~bus/communication protocols~~, automatically selecting one of the subset of the bus/communication protocols to implement connections between the components via the component ports.

25. (Currently Amended) The system design method of claim 23, further comprising:

in response to the number of bus/communication protocols included in the subset ~~subset including~~ being at least two ~~bus/communication protocols~~, presenting the subset to the system designer; and

receiving a selection from the system designer of one of the subset of the bus/communication protocols to implement connections between the components via the component ports.

26. (Previously Presented) The system design method of claim 16, wherein identifying a set of alternative bus/communication protocols supported by the component port comprises:

for each component port, retrieving corresponding component information from a component library storing previously defined component information, wherein the corresponding component information specifies at least a portion of at least one bus/communication protocol supported by the component port.

27. (Previously Presented) The system design method of claim 26, wherein the component library is stored in a database.

28. (Previously Presented) The system design method of claim 26, wherein the component information specifies at least a portion of at least one bus/communication protocol in an XML format.

29. (Cancelled)

30. (Cancelled)

31. (Previously Presented) The method of claim 16, further comprising:

analyzing the selected one of the subset of bus/communication protocols to identify a first set of connections defined by the selected one of the subset of bus/communication protocols;

analyzing the component ports of the components to identify the connections used by the component ports of the components for the selected one of the subset of bus/communication protocols; and

comparing the connections used by the component ports of the components with the first set of connections to determine a portion of the first set of connections necessary to implement the connections.